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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

SAVAGE, JASON L

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/596,060	Applicant(s) DULAC ET AL.	
	Examiner JASON L. SAVAGE	Art Unit 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 October 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-6,8-12,14-16 and 18-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-6,8-12,14-16 and 18-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-2, 4-6, 8-12 and 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ueda (JP 200303132) in view Shinji et al (JP 08-120389 English Machine Translation).

Ueda teaches an aluminum core material comprising Y between 0.05-1.0% and other elements such as Mn, Ti, Zr, V, Ni, Co and other elements within the ranges claimed with the balance being Al which would be in an amount well over 80% (abs). Ueda further teaches that a core alloy of 3003 aluminum was used and that erosion control elements were added individually and in combination to measure the erosion of the core (par [0023-0027]). 3003 aluminum has a nominal composition comprising Cu between 0.05-0.2%, Si 0.6%, Fe 0.7%, Mn 1.0-1.5% and Zn 0.10% which are all elements which may be employed in the claimed aluminum alloy and all fall within the claimed ranges for each element. Furthermore, Ueda's Sample No. 9 and 10 exemplify embodiments wherein the erosion control element is Y in amounts of 0.04 and 0.12 respectively which would meet the claimed alloy composition of the present invention.

Ueda further recites that the core metal is coated with a brazing aluminum alloy such as Al-Si with Si being between 6-13.5% by weight (abs). Ueda is silent to the brazing alloy containing one of the claimed elements however it teaches that the braze

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alloy may contain other elements in a range which does not check an effect of the recited invention such as Mg in an amount of 0.5-2.5% (par[0011]).

Shinji teaches an aluminum core material have a surface layer comprising a brazing selected from alloys such as Al-Si, Al-Si-Mg and Al-Si-Mg-Bi alloys (claim 7). Shinji further teaches that a variety of brazing alloys may be applied to the aluminum core such as those typically used for brazing/wax material such as the Al-Si-Mg-Bi alloy (par[0028]). It would have been obvious to one of ordinary skill in the art at the time of the invention to have employed a typical brazing alloy such as an Al-Si-Mg-Bi alloy for the brazing material for the aluminum core of Ueda with a reasonable expectation of success since they are known to be useful as brazing alloy materials. Regarding the limitation that the recited element modify the surface tension of the alloy, Bi would inherently have the same ability to modify the surface tension of the alloy as that claimed by Applicant.

Regarding the limitation in claim 1 that the aluminum strip or sheet is suitable for fluxless brazing under a controlled atmosphere, the limitation is drawn to an intended use. The coated aluminum core of Ueda as modified by Shinji would be just as suitable for use in a fluxless brazing under a controlled atmosphere as the article claimed by Applicant since the both comprise the same aluminum core and brazing alloy as claimed. Furthermore, as evidenced by the disclosure by Applicant in the last paragraph on page 5 of the present amendment, the addition of Mg is well known and would not require the use of flux. Regarding the limitation that the brazing is performed

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under a controlled atmosphere, the use of a vacuum would be considered a controlled atmosphere.

Regarding claims 2 and 11-12, Ueda recites the silicon content in the brazing alloy overlaps and anticipates the range claimed.

Regarding claims 4 and 14, Ueda teaches the brazing alloy may be clad by rolling with the basic aluminum core (par[0023]).

Regarding claims 5, 8-10 and 15-16, Ueda is silent to the braze part comprising particles which are possibly coated by a polymer. However, as recited by Applicant in paragraph [19] of the instant Application, it would have been within the purview of one of ordinary skill in the art to have added the brazing alloy in the form of particles which may be coated with a resin binder.

Regarding the limitation in claim 6 that the brazed part is made by fluxless brazing under a controlled atmosphere, the claims are drawn to an article, not the method of making. Absent a teaching of the criticality or showing of unexpected results of how the product formed by the recited method would differ from the product formed by the method of the prior art, it would not provide a patentable distinction. Furthermore, as recited above, due to the addition of Mg to the braze alloy, the use of flux is not necessary and the use of a vacuum would be a controlled atmosphere.

Regarding claims 6-7 and 11 Ueda further teaches the yttrium content which overlaps and anticipates the claims ranged between 0.05-0.5 (abs.).

Claim Rejections - 35 USC § 103

Claims 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Ueda (JP 200303132) in view of in view Shinji et al (JP 08-120389 English Machine Translation) as applied to claims 1-2, 4-6, 8-12 and 14-17 above, further in view of Baba et al. (JP 58-040495).

The prior art teaches what is set forth above but is silent that Bi may be added to the core alloy of Ueda. Baba teaches that that an aluminum core material comprising Bi between 0.005-0.3 and other elements such as Mn and Be which provides a heat exchanger component having improved corrosion resistance (abs.). The Bi content is taught to be between 0.005-0.3% which overlaps the range claimed by Applicant.

It would have been obvious to one of ordinary skill in the art at the time of the invention to have added other known additives such as Bi as disclosed by Baba (JP 2000-303132) to the Al-Y core of Ueda (US 200303131) with a reasonable expectation of success of providing a component having enhanced corrosion resistance.

Response to Arguments

Applicant's arguments filed 10-9-09 have been fully considered but they are not persuasive.

Applicant argues that the claimed components are for a specific purpose such as fluxless brazing under good economic conditions, which is not disclosed or suggested in any of the cited documents. However, the claims are drawn to articles, not the method of making. The prior art teaches a coated strip as claimed, and the strip which is

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subjected to brazing. Applicant further states that the addition of Mg as taught by Ueda is known in the art and does not require the use of flux for brazing. Applicant also argues that the limitation of a controlled atmosphere would be distinct from the process of Ueda which employs a vacuum; however, a vacuum would be considered a controlled atmosphere such as claimed. Should Applicant further define the type of atmosphere which is intended to exclude the use of a vacuum, Applicant has not provided any evidence to show that the strip of the prior art having the same core and brazing composition would not be just as suitable for brazing in the same atmosphere or that there would be a distinction in the braze formed article as claimed.

Applicant also states that the core composition of Ueda is not aimed at having any influence on the type of brazing process. This argument is not persuasive as the claims are drawn to an article, wherein the core of Ueda has the same composition as the core of the article of the claimed invention. Whether or not the purpose for Ueda's selection of the core alloy is different from Applicant's purpose for using the recited core alloy does change the fact that the core alloy is the same as the alloy of the claimed invention.

Applicant reiterates the prior argument that Ueda presumably teaches away from adding other elements to the brazing alloy other than Mg. Applicant states that on page 3, lines 3-5 of the specification Ueda notes that any other elements present cannot confer any new effect. As set forth in the prior response to Applicant's arguments, it is the position of the Examiner that Applicant has made an improper interpretation of the cited disclosure in Ueda.

It is noted the language Applicant recites cannot be found anywhere in the disclosure of Ueda. Second, Ueda specifically recites the brazing alloy may contain other elements in the range which does not check an effect of this invention. Applicant has not argued or shown how the addition of Bi to the brazing alloy of Ueda would check an effect of their invention. While it is noted that only Mg is positively recited as a suitable element to add, it does not recite that Mg is the only element which does not check an effect on the invention. It is unclear how Applicant can conclude the disclosure that explicitly recites the braze alloy may contain other elements to be a teaching away from adding any other elements which are not explicitly recited in Ueda.

Applicant further asserts that since the presently claimed invention adds additional elements such as Bi for the effect of modifying the surface tension, it would thus be considered an element which 'confers a new effect' to the formed composite. As set forth above, there is no recitation in Ueda of this limitation that additive elements cannot confer a new effect. Ueda only recites that other elements do not check, ie inhibit or diminish, the effect of Ueda's invention. Applicant's disclosure that Bi modifies the surface tension does not demonstrate that the inclusion of Bi would inhibit or diminish the invention of Ueda. Applicant has provided no proof of such a checked or diminished effect due to the inclusion of Bi in the braze alloy of Ueda.

Applicant further argues that Shinji does not teach or suggest fluxless brazing, as set forth in the rejection above. First, this argument is not commensurate in scope with the claims as the claims are drawn to articles. Second, the articles formed by the prior

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art would be just as suitable for use in a fluxless brazing process under a controlled atmosphere as claimed.

Applicant argues that Baba is directed to improving the corrosion behaving by creating a sacrificial anode effect for a fin material by adding Sn and that the fin does not utilize the addition of Bi to promote the suppression of a flux when brazing under a controlled atmosphere. This argument is not persuasive as Baba is merely provided to show that the addition of Bi to aluminum core materials for providing improved corrosion resistance is known and would have been obvious.

Conclusion

THIS ACTION IS MADE FINAL. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to JASON L. SAVAGE whose telephone number is (571)272-1542. The examiner can normally be reached on M-F 6:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer McNeil can be reached on 571-272-1540. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jason Savage/
Examiner
1-14-10

/Jennifer McNeil/
Supervisory Patent Examiner, Art Unit 1794